USDA

Decision Memo

Clustered Lady's Slipper Orchid and Serpentine Rare Plant Community Conservation Project

USDA Forest Service
Mount Hough Ranger District
Plumas County, CA

Background

We, (the USDA Forest Service, Plumas National Forest, Mt. Hough Ranger District), have decided to treat vegetation and fuels to restore and maintain conditions for clustered lady's slipper orchids (*Cypripedium fasciculatum*) and for rare plant communities associated with serpentine-derived soils. The treatments are needed to create and maintain vegetation and fuels conditions that will improve habitat and ensure long-term plant viability.

Project Location

This project is located within and near areas that have been affected by the Storrie, Rich and Chips Wildfires on the Mt. Hough Ranger District of the Plumas National Forest. It is within T25N, R7E Sections 2, 6, 8,11, 12, 13, 24, and 36; T25N, R8E, Sections 9, 19, 20, 25, 30, and 31; T26N, R7E, Sections 14, 15, 19, 22, 25, 29, 30, 31, and 32; and T26N, R8E Sections 15, 21, 22, 27, 28, 29, 30, 31, and 33 Mount Diablo Principal Meridian. See Figure 1.

Purpose and Need

We need to treat this area to ensure the long-term resilience of clustered lady's slipper orchid populations and serpentine plant communities. We first identified this need during field surveys shortly after the Storrie and Rich fires, and field surveys after the Chips fire further reinforced this need for action. Changes in vegetation composition and fuel conditions within the project area have impaired resiliency to disturbance, and affected habitat conditions for the clustered lady's slipper orchid and in serpentine plant communities. High stand densities and high fuel loads impact growing conditions for these sensitive plant species and put these areas at risk for both high severity and intensity wildfire, and the potential for re-burn in areas that have already been impacted by fire.

Therefore, there is a need to:

- Restore habitat conditions for clustered lady's slipper and serpentine plant communities by reducing the density of live trees in areas that have not burned or burned under lower severity fire;
- Reduce hazardous fuels to minimize the risk of future high intensity fire where clustered lady's slippers and serpentine plant communities occur; and
- Restore low intensity wildfire to reduce fuels while conserving moisture and mycorrhizal-containing duff and litter.

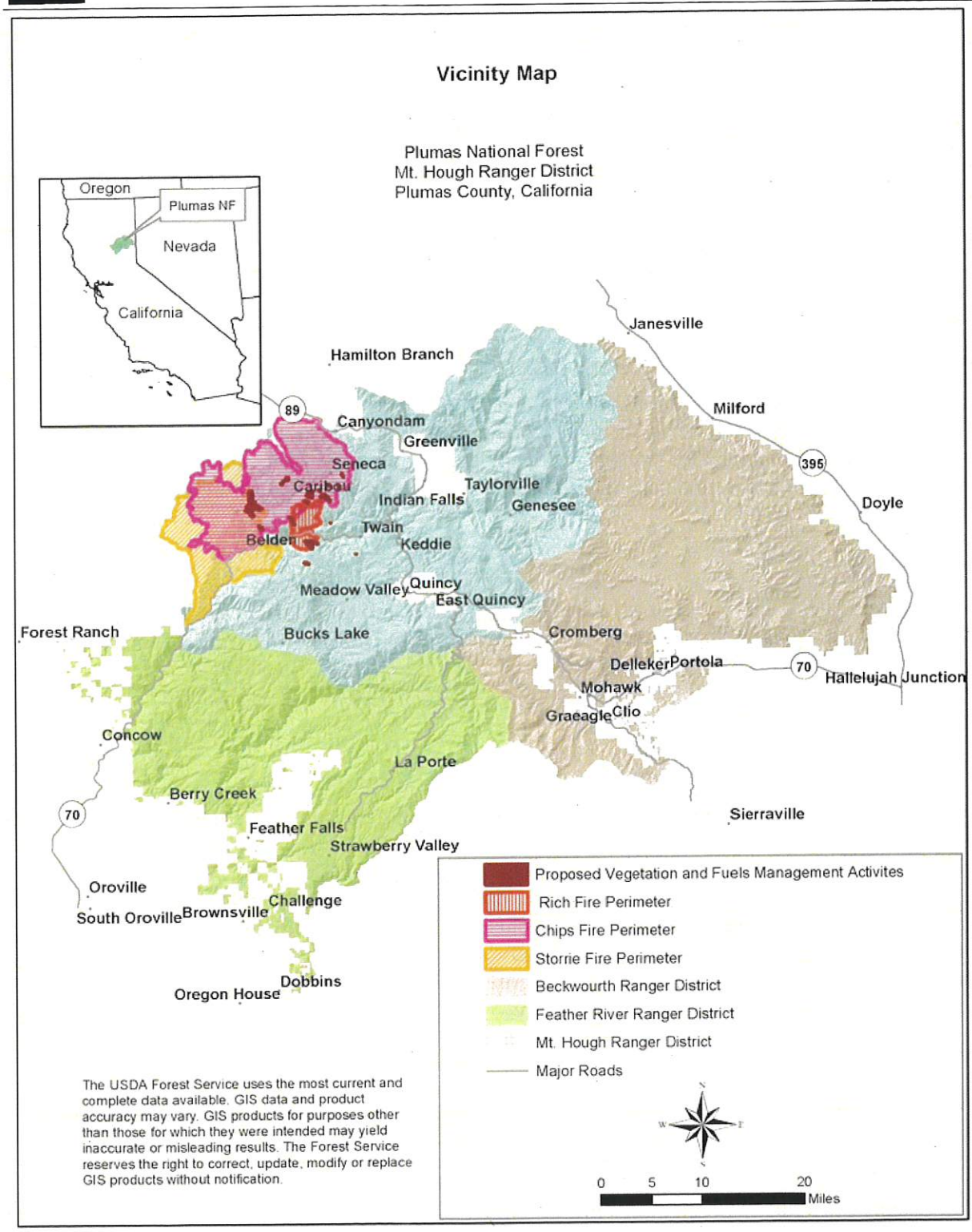

Figure 1: Project vicinity map

More specifically, outside of the burned areas the competing live vegetation, trees and shrubs, and downed fuels need to be reduced. In areas affected by the recent wildfires, there is a need to reduce both standing snags and downed fuels.

While we are working to restore fire-adapted ecosystems landscape-wide, it is particularly important to increase fire resiliency and habitat quality where there are sensitive species. This minimizes the risk of high intensity fire destroying these populations and their habitat, and increasing the probability that these populations will remain viable into the future.

Decision

I have decided to implement vegetation and fuels management activities to restore vegetation conditions, reduce hazardous fuels, and improve overall habitat conditions for clustered lady's slipper and serpentine plant communities in areas affected by and adjacent to the Storrie, Rich and Chips fires. My decision is based on a review of the project record that shows thorough consideration of the proposed action using the best available science.

Vegetation and Fuels Management for Clustered Lady's Slipper – 332 acres

We will implement vegetation and fuels management activities within and adjacent to documented populations of clustered lady's slipper orchids on approximately 332 acres. In these areas clustered lady's slipper populations either remain intact or have been adversely affected by wildland fire. These treatments will protect the existing clustered lady's slipper populations; reduce competing vegetation, creating conditions conducive to growth and establishment; and maintain their viability into the future. The preferred stand condition for clustered lady's slipper is approximately 60 percent canopy cover concentrated in larger trees with high levels of duff that provide conditions for important mycorrhizal fungi.

Our treatments consist of chainsaw thinning, hand piling, pile burning and reforestation. We will evaluate conditions on a site-specific basis for each documented population of orchids, and we will implement site specific prescriptions. Treatments will be manual, cutting live green trees up to 15 inches diameter at breast height (dbh). Larger burned snags (dead trees) may be felled if they are identified as significant risks to the existing orchid population. A tree that poses a risk is one capable of falling on the population of orchids. These cases would be limited, and if these trees are felled they will be left on site as downed wood. The branches will be removed and piled, and the bole will be left in contact with the soil, adding to duff recruitment.

In general, for areas that burned at high or moderate severities, thinning treatments will focus on reducing both live and dead fuels, and other material that could contribute to future high severity wildfire behavior. In unburned or low severity areas, stands with high tree densities will also be thinned, focusing on reducing ladder and ground fuels, and other competing vegetation. Residual fuel loading should be within a range of 10 to 20 tons per acre, primarily in larger fuels (1000+) hours.

We will plant site appropriate native conifers after pile burning, mainly on sites with extensive vegetation loss, and in locations where we have identified a need to increase tree canopy cover. We will plant at densities appropriate to restore the site quality.

Vegetation and Fuels Management for Serpentine Plant Communities – 1,039 acres

We will implement vegetation and fuels management activities within serpentine plant communities on approximately 1,039 acres. We have delineated and developed treatment methods for each area that contains serpentine-derived soils. All of the treatment areas are within or directly adjacent to areas that were previously affected by wildland fires. Treatments would improve conditions for plants associated

with serpentine-derived soils. We will focus treatments on areas that previously burned at high to moderate severity to reduce both standing and downed fuel loads. In unburned areas where fire exclusion or low severity fire has led to the excessive accumulation of live fuels and vegetation, our treatments would reduce ladder and ground fuels, reducing competing vegetation and increasing the amount of suitable habitat for serpentine plant communities. Our vegetation and fuels management activities will follow a site specific prescription that considers all resources (see design features, below).

Treatment Units and Description of Treatments

Areas we have identified for treatment have been verified in the field, and will be treated by a combination of methods. The proposed treatment activities by acreage are listed in Table 1 and shown in Figure 2.

Table 1. Proposed treatment methods by unit

Proposed Vegetation and Fuels Management Actions	Unit Number	Proposed Treatment Activities	Acres
Clustered Lady-slipper	60-79	Hand thin, hand pile, pile burn, reforestation	332
Serpentine Habitat	20, 21, 27, 29, 42, 46, 47, 48, 48A	Hand thin, hand pile, pile burn, prescribed fire	604
	44	Hand thin, machine pile, pile burn, prescribed fire	15
	22, 23, 24, 26, 40, 41, 43	Mechanized tree felling, machine pile, pile burn, prescribed fire	146
	25, 30, 31, 33, 39	Mechanical thin, machine pile, pile burn, prescribed fire	153
	45	Prescribed fire	121
Total Acres for all Treatment Methods			**1371**

The following list describes the treatments listed in Table 1:

- Hand thin - Live (green) trees will be prescriptively thinned up to 15 inches dbh with a chainsaw.
- Hand pile - Felled material will be cut and piled by hand. Downed material (e.g. logs) will also be piled by hand.
- Mechanical thin - Stands will be prescriptively thinned with a feller buncher (or other piece of equipment that would limit ground disturbance) removing primarily live (green) trees. Cut material will be skidded to a landing and processed or machine piled and burned. Processed material could be hauled off-site either as commercial sawlogs or as biomass material or piled and burned. Hazard trees will be felled either by manual falling or with other piece of equipment.
- Machine pile - Slash that exceeds desired fuel loading conditions will be piled by machine.
- Pile burn - Burn piles after slash has cured.
- Prescribed burn - Prescribe burn under prescriptive conditions.

- Mechanized tree felling – felling of primarily standing dead (burned) trees and snags with equipment (feller buncher, excavator, or other appropriate equipment). Trees will be felled and left on site or piled and burned.

Identified trees would be felled either with a chainsaw, or in units where standing trees and snags pose a hazard to workers, trees would be felled with equipment (feller buncher, excavator, or other appropriate equipment). Most snags are considered unstable and so machinery would be used if conditions were unsafe for manual falling, or if it is more cost effective.

Most treatment units will be accessed using existing roads and with temporary skid trails. Some of these roads may be maintained. We may need to construct temporary roads in some sites, but this will be limited to less than one mile of temporary road construction and design features are in place to ensure resources are adequately protected. Temporary roads would be obliterated after use.

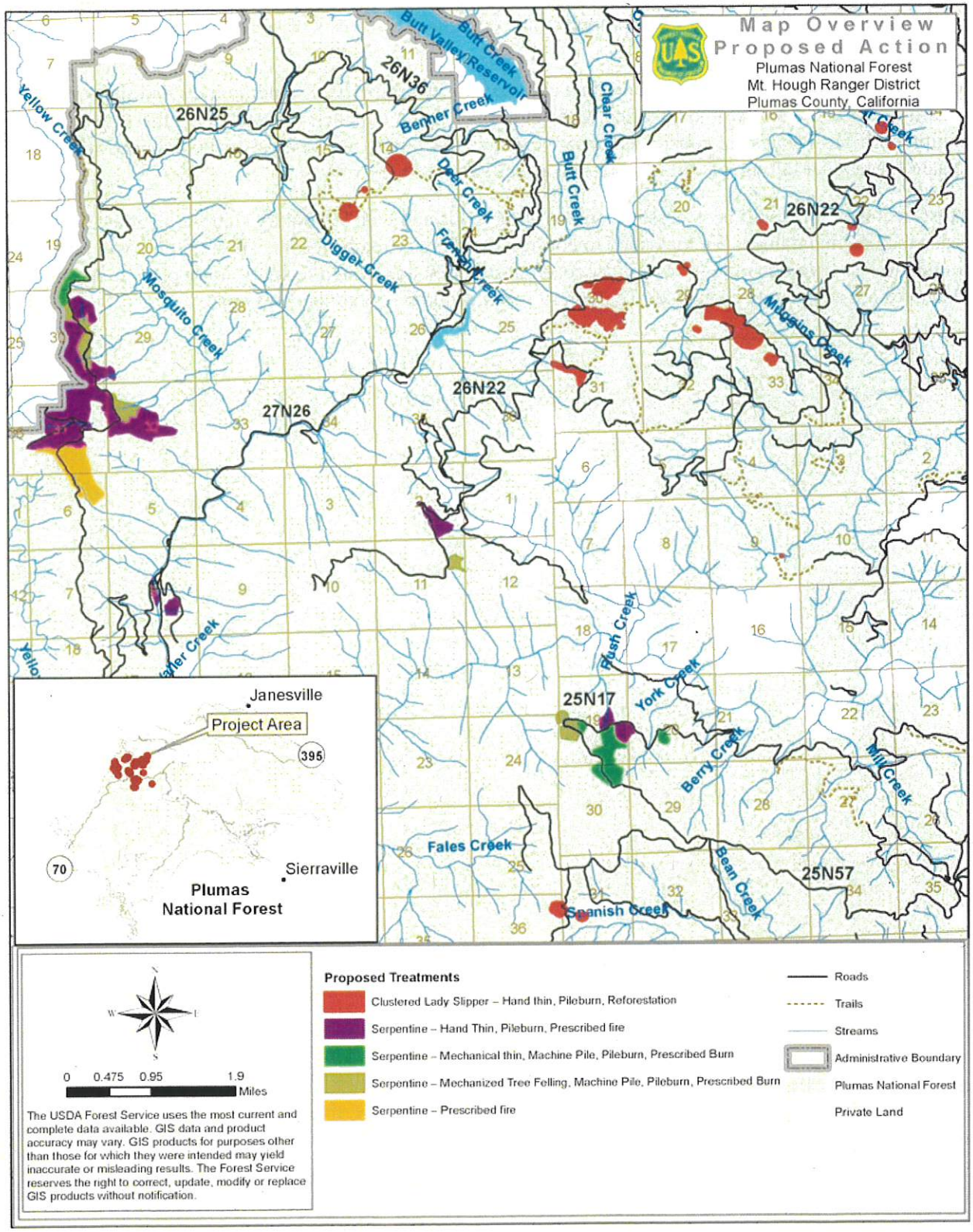

Figure 2: Map of treatment areas and treatment types

Design features, standard operational procedures, and best management practices

Forest Service Best Management Practices, Plumas National Forest Land Management Plan (as amended by the Sierra Nevada Framework) standards and guidelines, and site-specific design features will be incorporated to minimize project impacts to sensitive plants, terrestrial and aquatic wildlife, soil, water, and cultural resources.

Sensitive Plant Species Protection

Design criteria developed from the Plumas National Forest Management Prescriptions for sensitive species present within and potentially affected by the proposed actions are summarized as follows:

- Flag and avoid occurrences of *Boechera constancei, and Frangula purshiana ssp. ultramafica* as well as *Carex scabriuscula, Cypripedium californicum, and Darlingtonia californica* to protect them from ground disturbance resulting from heavy machinery.
- Place hand and machine piles at a distance greater than 50 feet from individuals of *Cypripedium fasciculatum* and 20 feet from individuals of *Boechera constancei, Frangula purshiana ssp. ultramafica, Monardella folletti, and Packera eurycephola var. lewisrosei;* as well as *Carex scabriuscula, Cypripedium californicum, Darlingtonia californica, Erigeron lassenianus var. deficiens*, and *Erigeron petrophilus var. sierrensis.*
- Develop fire prescriptions of underburns with Botanist to achieve the most favorable results for species which coincide with this activity including: *Boechera constancei, Frangula purshiana ssp. ultramafica, Monardella folletti, Packera eurycephala var. lewisrosei,* as well as *Carex scabriuscula, Cypripedium californicum, Darlingtonia californica, Erigeron lassenianus var. deficiens,* and *Erigeron petrophilus var. sierrensis.*
- Exclude underburning from within 20 feet of *Sedum albomarginatum* occurrences.

Maps of occurrences and exclusion areas are provided in the Biological Evaluation.

Non-Native Invasive Species (NNIS) Avoidance

Summarized here are mitigation measures specific to this project. Additional general mitigation to minimize NNIS risks are provided in the Noxious Weed Risk Assessment. Four non-native invasive species are either within proposed actions or 100 feet thereof. To minimize the risk of spread from these occurrences:

- Pre-treat occurrences of *Aegilops triuncialis, Centaurea solstitialis, Cirsium arvense, and Rubus armeniacus* (may or may not include R. *armeniacus* at RUAR9_0378 and RUAR9_0401) before activities to minimize risk of spread (consistent with the Storrie and Rich Fire Areas Invasive Plant Treatment Project). Flag and avoid infested site during implementation.
- Determine or develop a weed free access point(s) for implementation of activities proposed along 26N26 to limit potential spread of roadside *Centaurea solstitialis* to the unit interior.
- Two occurrences of *Rubus armeniacus* (RUAR9_0378, RUAR9_0401) which are spread much throughout a unit of proposed activity within T25N R7E S8 should be considered under the treatment selection framework of the Storrie and Rich Fire Areas Invasive Plant Treatment Project and controlled to an extent which is practical.

California Spotted Owl and Northern Goshawk Protected Activity Centers (PAC) and HRCAs: Treatments will follow Standards and Guidelines listed in the SNFPA ROD Pages (p. 50-51 and 59-61) pertaining to location and implementation of treatments. Retain all live conifers 30 inches dbh or larger and follow prescriptive guidance for mechanical thinning treatments in mature forest habitat (CWHR types 4M, 4D, 5M, 5D, and 6) outside WUI defense zones. Note specific prescriptive measures related to mechanical thinning Within California Spotted Owl Home Range Core Areas (HRCA) and Outside of California Spotted Owl Home Range Core Areas. Guidance developed for this project anticipates no mechanical thinning in PACs. For hand thinning, the 6 inch diameter limits will be applied to the treatment of ladder fuels in both California Spotted Owl and Northern Goshawk PACs. Additional project-specific design features include:

- In stands classified as CWHR 5D and 5M, design treatment prescription to ensure that the post-treatment canopy cover classification is not downgraded below 50%.
- For hand thinning, the 6 inch diameter limit will be applied to the treatment of ladder fuels in both California Spotted Owl and northern goshawk PACs.

Affected units are listed in the Project File.

Wildlife Limited Operating Periods: To protect key wildlife species, unless determined to be unnecessary following pre-implementation surveys, limited operating periods (LOPs) listed in the 2004 SNFPA ROD (pages 54-62) and the Biological Evaluation/Biological Assessment would apply. Adjustments to the extent of the LOP may be may be made by the District Wildlife Biologist once the activity center location is determined. In cases where only a portion of the proposed treatment unit is within the specified distance of the activity center, the LOP only needs to be applied to that portion.

- California Spotted Owl - Within ¼ mile of a PAC boundary or active nest site the limited operating period is March 1 through August 15.
- Northern Goshawk - Within ¼ mile of a PAC boundary or active nest site the limited operating period is February 15 through September 15.
- Bald Eagle – Within designated territories (1/4 around nest site) the limited operating period is November 1 through August 31.

Affected units are listed in the Project File.

New wildlife findings: Where subsequent surveys identify occupied threatened, endangered, or sensitive species habitat, establish PACs, den site buffers, or other protections as described in the SNFPA EIS. Include protections for any additional sensitive species identified in the BE/BA. In the event of a verified TES species occurrence after project award, the appropriate LOPs would apply and are provided in Appendix E of the BA/BE. Other mitigations may take place as agreed upon by the Sale/Contract Administrator and District Wildlife Biologist.

Down wood: Within westside vegetation types, generally retain an average of 10-15 tons (> 15 inch diameter) of large down wood per acre over the treatment unit. Within eastside vegetation types, an average of 3 large down logs would generally be retained per acre. In areas considered deficient in large woody debris, wherever possible leave cull logs at the stump rather than being skidded to the landing. The Sale/Contract Administrator and the District Wildlife Biologist would agree upon the location and amount (Table 2, SNFPA 2004 ROD).

Snags: Snag retention levels would be determined on an individual, project basis; however, they would consider the guidelines set forth in the Standards and Guides (USDA 2004). The Guidelines state that projects would retain 4 of the largest snags per acre in westside mixed conifer and ponderosa pine types; 6 of the largest snags per acre in the red fir forest type; 3 of the largest snags per acre in the eastside and eastside pine types; and 4 of the largest snags in westside hardwood ecosystems. Wherever possible, use snags larger than 15 inches dbh and 20 feet in height to meet these guidelines (Table 2, SNFPA 2004 ROD). Additional project-specific design features include:

- To provide areas of higher snag and down woody debris levels across the treatment, retention islands would designated in all treatment units with thinning and machine felling. Retention islands would consist of small-untreated patches within the boundary of treatment units that range in size commonly between 1/10 to 2 acres (depending on minimum unit size), and would comprise 10 percent of the acres within each unit. Equipment exclusion zones, areas of inoperability due to safety, and protection zones of other resources may be used to meet this goal.

Structure trees: Retain and protect high value wildlife habitat trees (trees with multiple tops, broken tops, rot, cavities, and other formations) that create structure for nests and dens.

Hardwoods: Retain all large hardwoods on the westside except where: (1) large trees pose an immediate threat to human life or property or (2) losses of large trees are incurred due to prescribed wildfire. Large montane hardwoods are trees with a dbh of 12 inches or greater. Refer to SNFPA 2004 ROD pages 35-36 and 53.

Prescribed fireline construction (machine): In general, prescribed fireline construction utilizing a piece of equipment would be conducted in accordance with district resource specialists. There would be no mechanical fireline construction in hand-thin PAC units unless approved by the wildlife biologist.

Aquatic Wildlife

The standards and guidelines, best management practices, project-specific design features, and terms and conditions prescribed in the U.S. Fish and Wildlife Service programmatic biological opinion (USFWS 2014) will be properly implemented to minimize the Project's adverse effects to the Sierra Nevada yellow-legged frog.

- Tightly woven fiber netting or similar material shall be not used for erosion control or other purposes within Sierra Nevada yellow-legged frog suitable habitat to ensure that individuals do not get trapped, injured or killed. Plastic mono-filament netting or similar material will not be used at any of these projects because individuals of these listed species may become entangled or trapped in it.
- To protect water quality and meet SNFPA Riparian Management Objectives, roadside ditches will be treated the same as the water body type they resemble.
- Chainsaw thinning would be restricted during the wet season, between October 15th and March 1st, or the first wetting rain (72 hours with no drying period), whichever comes first. A district biologist may amend the dates based on local site conditions.
- To protect water quality and riparian habitat for aquatic organisms, within 50 feet of perennial or seasonal streams, if treatment reduces groundcover to less than 75 percent for a contiguous area of greater than 0.25 acre, then mulching and/or revegetation may be required to minimize erosion and reestablish native vegetation. Only native plant species will be used in revegetation. All mulch and seed material will be certified weed-free.
- Within suitable, unoccupied habitat:

- Within the un-surveyed areas of suitable habitat, Sierra Nevada yellow-legged frog habitat occupancy will be assessed annually by the Forest Service within proposed treatments areas. Occupancy will be determined through surveys by the Forest Service or qualified biologists. The qualified biologist will have documented training in the biology and field identification of frogs in addition to demonstrable experience surveying for and positively identifying Sierra Nevada yellow- legged frogs. The survey will cover all suitable habitat areas and should any life stages of the species be found (i.e. the site is occupied), work activities for that area will occur during the limited operating period suggested by the Forest Service conservation measures.
- Within 100 feet of suitable habitat, no project activities between October 15th and March 1st, or the first wetting rain (72 hours with no drying period), whichever comes first. A district biologist may amend the dates based on local site conditions.
- Heavy Equipment including feller bunchers and masticators will not be utilized within 100 feet of streams that have suitable habitat for Sierra Nevada yellow-legged frog and will not be used on slopes greater than 30% adjacent to 100 foot stream buffer.
- Piles to be burned will be built outside of the 100 foot Sierra Nevada yellow-legged frog riparian buffer to protect these animals. Pile burning will be in directional light, which means that the fire must start at one point only and let fire burn through to allow any critter within the pile to escape. Piles for wildlife retention inside of the 100 foot riparian buffer will be built with wildlife pile prescriptions and will not be burned to provide for Sierra Nevada yellow-legged frog shelter habitat.
- All conifers up to 12 inches dbh will be removed with chainsaws. Conifers between 12 inches and 30 inches dbh may be felled or girdled, depending on site conditions. Trees felled will have the boles retained on site and the limbs and tops removed and piled for later burning.
- To prevent loss or damage to suitable habitat, all tree and brush removals within the 100-foot buffer zone will be done by hand or with the use of chainsaws.
- Fueling of gas-powered equipment with gas tanks larger than 5 gallons will not occur within 150 feet of surface waters, except at existing facilities.

Vegetation

Treatments will follow Standards and Guidelines listed in the SNFPA ROD Pages (p. 50-53). The following standard management practices would apply to restore vegetation, where possible and where sufficient forest cover remains:

- Where present, retain all hardwood and riparian species. Retain the largest, most vigorous dominant and co-dominant trees to create a residual stand that would be comprised of larger fire-resilient trees. Species preference would be determined by dominant forest type. In general, prefer to retrain shade intolerant species including rust resistant sugar pine, black oak, ponderosa and Jeffery pine, and Douglas fir.
- No more than 10 to 20 percent variable amounts of mortality may occur in the residual crop trees following underburning within areas of mortality no greater than 2 acres. Minimize mortality in visual corridors.
- Retain all live conifers 30 inches diameter at breast height or larger; exceptions may be allowed to meet needs for operability on a specific case basis.

- Preferably retain shade intolerant species where present, red fir over white fir, and vigorous disease- and insect-free individuals over declining individuals. Individuals showing signs of heavy root disease infection, dwarf mistletoe, or insect attack will usually be targeted for removal.
- Incorporate topography and aspect when determining leave trees. Generally, stands on ridge tops or higher in slope position would have fewer retained trees as compared to stand in lower slope position and/or drainage bottoms. In addition, stands with a more southerly aspect would have lower residual basal area as compared to stands with a more northerly aspect.
- Increase horizontal and vertical heterogeneity by retaining patches of large trees among the thinning matrix, with occasional openings to allow for small gap regeneration and recruitment. Patches will have higher densities and canopy covers than surrounding areas, while openings will have lower densities and more open canopies. Patches may range from a few to several larger individuals. Openings will resemble small scale disturbances such as individual large tree mortality and disease centers where a few individuals die, and where possible will be targeted in areas where shade intolerant species are present.
- A heterogeneous landscape comprised of different seral stages and tree species in various ranges of density and canopy cover would be resilient to disturbance. Desired stand structure would vary according to topographic location, such as aspect, slope position, and site quality, creating high levels of horizontal and vertical diversity at the stand and landscape-scale. North facing slopes, true fir and dry mixed conifer stands would contain more shade tolerant species and higher canopy cover. Desired forest attributes include uneven-aged, multi-storied stands dominated by legacy structures composed of large, fire-adapted trees.
- Post treatment stand densities would generally be low, characteristic of active-fire ecosystems, especially on south-facing slopes and near ridge tops. Pine type stands would be primarily shade intolerant species with open canopy. Desired forest attributes include uneven-aged, multi-storied stands dominated by legacy structures composed of large, fire-adapted trees. Pine type stands would have open pockets of sparse canopy cover that promote the establishment and growth of fire-adapted and shade-intolerant species including ponderosa and Jeffrey pine, sugar pine, and aspen which would contribute to landscape heterogeneity and native plant species diversity. Young pine regeneration in the understory is desirable to increase structural diversity and create uneven-aged conditions. Tree densities and canopy cover would generally have been lower than in Sierran mixed conifer forests due to the lower precipitation levels and poorer site productivity, but would still have varied according to aspect.

Recreation

Apply Rx-5 – Recreation Area Prescription and Rx-6 – Developed Recreation Prescription within the North Fork Recreation Area.

Standard management requirements are applied to protect recreational opportunities and ensure visitor safety, especially for units within the North Fork Recreation Area, including:

- Implement measures for safety of forest visitors and provide public notifications, such as: treatment areas closures, locations of prescribed fire, locations of haul routes, and treatment implementation timeframes. Provide public notification as appropriate at recreation sites, trailheads, in local newspapers, and online.
- Coordinate treatment timing limitations to minimize impacts to the recreating public, concession operators, and special use permit holders. This may include a limited operating period from Memorial Day to Labor Day within recreation sites, no project activities or hauling activities on weekends or

holidays and during important hunting season timeframes, or other site specific limitations determined necessary to minimize impacts to recreation activities within the project area.

Soil

The following standard management practices would be applied to protect project area soils:

- **Temporary roads:** All temporary roads used in this project whether existing or new would be closed to traffic and adequate drainage installed after operations. Subsoiling is required (see subsoiling project design criteria, below). No new temporary road construction on serpentine soils.

- **Landings:** Landings would be utilized to remove sawlog and biomass products. Landing would be designated at the time of harvest operations. To the extent practicable, past, existing landings would be utilized so long as they are located in places where no other resource concerns exists. New landings would be constructed to accommodate material where necessary.

- **Subsoiling (Landings temp roads, main skids):** All landings, all temp roads, and main skids within 200 feet of landings would be subsoiled. If implemented, subsoiling would lift and fracture the soil in place leaving it loose and friable to a minimum depth of 18 inches. Treatment would be repeated if furrows are left deeper than 12 inches. Furrows would be oriented perpendicular to slopes greater than 10%. Subsoiling treatments could be suspended or eliminated if the subsurface rock size and distribution is such that effective operation is not possible, if slopes are over 25%, or if root damage or root disease, is a concern. The contract (sale) administrator shall consult with earth scientist and other appropriate resource specialists to eliminate or suspend subsoiling, in areas where subsoiling may not benefit the resource.

- **Prescribed fire control line construction:** Fire control lines are a concern for hydrology and soil quality risks, whether put in by hand or using mechanical means. They need to be rehabilitated for drainage using best management practice (BMP) guidance. Where containment lines meet roads or off highway vehicle (OHV) trails they shall be disguised by scattering brush and slash for the first 100 feet. In the first 100 feet from an existing road or trail, fire containment lines shall not be constructed until implementation is scheduled. Prescribed fire containment lines shall be covered with slash to achieve 50% ground cover. Fireline construction should be in accordance with all equipment restrictions. Exception may be made upon consultation with an earth scientist. If old road templates are opened up they are to be physically closed with rock or earthen barriers. The objective is for them to not become non-system trails.

- **Slope restrictions:** Ground-based equipment would be restricted to slopes less than 35 percent. Exceptions may be made for short pitches of 100 feet slope distance, up to 50% slope. When units have inaccessibly steep inclusions of steeper ground, sawlog and biomass products may be end-lined. Excessive soil displacement (i.e., 'furrowing') caused by endlining would be mitigated or repaired by the operator. Mastication and grapple piling units may include 40% slope. Exceptions may be made for short pitches of 100 feet slope distance, up to 50% slope.

- **Wet weather and winter harvest operations:** Conduct ground based harvest operations when soil is dry; that is, in the spring when soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. In the summer and early fall after storm event(s) when soil moisture between 2-8 inches in depth is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand

is tapped. Winter harvest operations may occur only when the ground is frozen to a depth of 5 inches or over 8 inches of well packed snow.

- **Down woody material and ground cover retention:** Where available, maintain adequate cover of surface fuels, litter, duff, large woody debris, and rock to maintain 50% ground cover. Maintain, where available, 10-15 tons of large down logs per acre (greater than 15 inches diameter), emphasize decay classes 1, 2, and 3. On site activity generated material (slash or chips) shall not exceed a depth greater than 6 inches in depth.

- **Equipment Use:** Only grapple piling equipment with lift capabilities would be utilized for machine piling. Dozer piling would be avoided unless absolutely necessary, and would be allowed in landings. Avoid piling soil and duff to the extent possible.

Water Resources

Apply the standards and guidelines identified in the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) Record of Decision (ROD) relating to treatment of fuels and associated project activities within all Riparian Conservation Areas (RCAs) and Streamside Management Zones (SMZ).

Integral to the protection of SMZs and RCAs is the designation of prescribed widths for these zones, so that the location of special treatment design features associated with SMZs and RCAs is clear to all persons involved in carrying out a proposed project. Guidelines for widths of SMZs are presented in Appendix M of the PNF LRMP. These guidelines were superseded by the suggested widths for Riparian Conservation Areas (RCAs) presented in Appendix A of the 2004 Record of Decision (ROD) for the regional amendment of Forest Plans within the Sierra Nevada (USDA 2004).

The RCA widths listed below would be the maximum buffer width identified for each aquatic feature type. Table 1 also displays an additional buffer (inner buffer or equipment exclusion zone) within the RCA guideline buffer.

Table 2: Design Criteria for riparian conservation areas by stream type*

Stream type	Riparian Conservation Area (RCA) widths	Minimum distance to burn pile	Equipment Exclusion Zone (EEZ) for slopes less than 35%	EEZ for slopes greater than 35%
*Perennial Stream	300 feet	100 feet	100 feet	No equipment entry
*Intermittent Stream	150 feet	100 feet	50 feet	No equipment entry
Ephemeral stream	150 feet	15 feet	25 feet	No equipment entry
*Special aquatic features (reservoirs, wetlands, fens, and springs)	300 feet	100 feet	100 feet	No equipment entry
Riparian features, dry meadows, seasonal wetlands	150 feet	15 feet	50 feet	No equipment entry

*Unless this is suitable habitat for SNYLF, in which case, conservation measures for SNYLF would apply, where more restrictive (see project-specific design features).

Standard management practices for riparian conservation areas are applied within the RCA widths (as defined in Table 1). In some cases, more restrictive buffers or measures or SNYLF habitat may apply (see project-specific design features). These measures include the following:

- **RCA Equipment Constraints:** Establish equipment exclusion zones adjacent to stream channels according to Table 1. Allow equipment to travel into outer RCA zone to harvest trees and bring them to skid trails. To minimize soil displacement, no equipment would be permitted to turn around while off a skid trail in RCA.
- **Springs, seeps, fens, and meadows:** Prohibit mechanical equipment use within 100 feet of edge of features. Hand thinning treatments within feature and within the equipment exclusion zone would be allowed. Piles would be constructed at least 25 feet from edge of feature. Tree boles would be left in fens as benefit to structure and diversity. Prescribed burning would not be allowed within 25 feet of features.
- **Landings:** There would be no construction of new landings or use of old landings within RCAs unless agreed to by earth scientist and sale administrator.
- **Temp roads/Skid Trails:** Where temporary road or skid trail construction involves cut and fill, the feature would be subsoiled, then re-contoured to match the existing topography. In RCA's and the SIA, slash would be scattered to provide ground cover of 50% or greater and would be less than 6" in depth. Slash would consist of organic material (logs, branches chips and duff). Slash would be scattered to resemble a natural appearance similar to the surrounding landscape. Rocks can be included as acceptable ground cover (included in the 50% cover). Special "C" contract provision for the spreading of slash should be included and calculated as necessary as an appraisal item. These areas would be sufficiently blocked at the entrances to preclude access by motorized wheeled vehicles. Where temporary roads cross stream channels, all fill would be removed from the channel and utilized for re-contouring or spread in a stable location outside the RCA. To the extent possible, existing skid trails would be utilized thus minimizing any new disturbance within the project area.
- **Stream Crossings:** Crossings of perennial streams with skid trails or temp roads are generally prohibited. If skid trails or temporary road construction need crossings in perennial or intermittent streams consultation with earth scientist and biologist is required prior to approval.
- **Prescribed Fire:** Broadcast (prescribed) burning would be allowed within RCAs, but there would be no ignitions in riparian vegetation. Fire may back through this zone. (BMP 1.4 - Using Sale Area Maps and/or Project Maps for Designating Water-Quality Protection Needs, BMP 1.8 - Streamside Management Zone Designation)
- Conduct ground based harvest operations when soil is dry; that is, in the spring when soil moisture in the upper 8 inches is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. In the summer and early fall after storm event(s) when soil moisture between 2-8 inches in depth is not sufficient to allow a soil sample to be squeezed and hold its shape, or will crumble when the hand is tapped. (BMP 1.5 - Limiting the Operating Period of Timber Sale Activities)
- Refueling of equipment and storage of fuel and other hazardous materials will not occur within riparian conservation areas (RCAs). Storage of any quantity of fuel greater than 100 gallons will require a California Engineer Spill Plan (BMP 2.11 - Equipment Refueling and Servicing)
- All landings, all temp roads, and main skids within 200 feet of landings would be subsoiled. If implemented, subsoiling would lift and fracture the soil in place leaving it loose and friable to a minimum depth of 18 inches. Treatment would be repeated if furrows are left deeper than 12 inches. Furrows would be oriented perpendicular to slopes greater than 10%. Subsoiling treatments could be

suspended or eliminated if the subsurface rock size and distribution is such that effective operation is not possible, if slopes are over 25%, or if root damage or root disease, is a concern. The contract (sale) administrator shall consult with earth scientist and other appropriate resource specialists to eliminate or suspend subsoiling, in areas where subsoiling may not benefit the resource (BMP 1.14 - Special Erosion-prevention Measures on Disturbed Land).

- Ground-based equipment would be restricted to slopes less than 35 percent. Exceptions may be made for short pitches of 100 feet slope distance, up to 50% slope. When units have inaccessibly steep inclusions of steeper ground, sawlog and biomass products may be end-lined. Excessive soil displacement (i.e., 'furrowing') caused by endlining would be mitigated or repaired by the operator. Mastication and grapple piling units may include 40% slope. Exceptions may be made for short pitches of 100 feet slope distance, up to 50% slope.
- Only grapple piling equipment with lift capabilities would be utilized for machine piling. Dozer piling would be avoided unless absolutely necessary, and would be allowed in landings. Avoid piling soil and duff to the extent possible.

Cultural Resources

Standard Protection Measures for cultural resource sites per the Region 5 Programmatic Agreement (PA) will be implemented.

- If heritage resources are identified during project implementation (unanticipated discovery), all work would cease immediately in that area until the situation is reviewed by a qualified archaeologist and an assessment and mitigation plan instituted to ensure protection of the site.
- All known sites within the treatment units (see Cultural Resource Response Form, project file) will be flagged with a 20 meter buffer and will be avoided by heavy equipment during project activities. Hand-based equipment and treatments, such as chain saws and hand piling will be allowed within sites so long as historic artifacts and features are not disturbed, and burn piles are not placed next to any artifacts or features that may be impacted.
- Historic properties located within the project's area of potential effects but not in close proximity to identified disturbance areas shall be protected from indirect project impacts such as use of areas for staging equipment or vehicles (i.e., timber harvest equipment; water trucks; road construction, reconstruction or maintenance equipment; Forest Service vehicles etc.) or any other activities.

Categorical Exclusion

This action is categorically excluded from documentation in an environmental impact statement (EIS) or an environmental assessment (EA). The applicable category of actions is identified in agency procedures as "Timber stand and/or wildlife habitat improvement activities that do not include the use of herbicides or do not require more than 1 mile of low standard road construction" (36 CFR 220.6(e)(6)) and "repair and maintenance of roads and trails" (36 CFR 220.6(d)(4)). This category of action(s) is applicable because the project will improve habitat, does not use herbicides, and would include less than 1 mile of low standard road construction.

I find that there are no extraordinary circumstances that would warrant further analysis and documentation in an EA or EIS. I took into account resource conditions identified in agency procedures that should be considered in determining whether extraordinary circumstances might exist:

a. ***Federally listed threatened or endangered species or designated critical habitat, species proposed for Federal listing or proposed critical habitat, or Forest Service sensitive species*** –

Terrestrial wildlife – There would be no effects to any federally listed threatened and endangered terrestrial wildlife species because they are not present in the project area. The project may impact individual California spotted owl, northern goshawk, bald eagle, Western bumble bee, American marten, Pacific fisher, pallid bat, Townsend's big-eared bat, and fringed myotis, but is not likely to cause a trend towards listing. Design features and limited operating periods would minimize impacts to these species. The reasons for these determinations are fully documented in the Biological Evaluation.

Aquatic wildlife – The federally-endangered Sierra Nevada yellow-legged frog is the only species listed under the Endangered Species Act and has critical habitat within the Project Area. A project level biological assessment was prepared which supports that the project would have no effect to the species and its critical habitat. There are no known Forest Service Sensitive species that occur within the project area. The project will not affect individuals and will not cause a trend towards future listing of Forest Service Sensitive aquatic species.

Plants – No federally listed plants would be affected by the project. The project may affect individuals of eleven Forest Service Sensitive Species and seven Plumas Watch List species, but is not likely to result in a trend toward listing or downward trend. The design features would avoid any significant effects to six sensitive species and five watch list plants occurring within areas proposed for activities. In addition, the proposed action has been design to enhance habitat for many of these species in the long term. The reasons for these determinations are fully documented in the Biological Evaluation.

b. ***Flood plains, wetlands, or municipal watersheds*** –

All stream channels associated with the Lady's Slipper Project are headwater ephemeral, intermittent or perennial drainages with limited floodplain development. Therefore, no 100 year Federal Emergency Management Agency floodplains, regional floodplains, or California Department of Water Resources (DWR) Awareness Floodplains occur with the project boundary. There will be no floodplain occupancy or disturbance caused by the proposed action.

A review of the National Wetland Inventory layer indicates that a 2.5 acre wetland does exist in Unit 46. However, vegetation treatment would occur by hand and burn piles would be placed at least 100 feet from the edge of the wetland. We believe this would protect the integrity of this wetland system. No filling of the wetland or ground disturbance would occur.

Two 7th HUC watersheds involved with the project have municipal water supply according to Appendix I of the 1988 Plumas LRMP. These include French Creek in the French Creek watershed and Mill Creek in the Virgilia watershed. The project proposes approximately 15.6 acres of hand thinning, hand pile and pile burning with reforestation above the French Creek supply and approximately 1.4 acres of hand thinning, hand pile and pile burning with reforestation above the Mill Creek supply. All three units are located on ridgetops away from the respective municipal water supplies. We believe that little to no ground disturbance would occur with proposed hand treatments and localized soil effects would be realized during pile burning but not to the point where sedimentation into waterbodies would be an issue. Therefore, municipal water supplies would be protected.

c. ***Congressionally designated areas such as wilderness, wilderness study areas, or national recreation areas*** – none present.

d. ***Inventoried roadless areas or potential wilderness areas*** –

Small portions of units 42 and 45 proposed for Serpentine rare plant enhancement is within the Chips Creek IRA. The proposed treatment in unit 42 is chainsaw thinning, hand piling, pile burning, and underburning; the proposed treatment in unit 45 is underburning. The proposed activity would fall under the following exception to the 2001 Roadless Area Conservation, Final Rule.

(1) The cutting, sale, or removal of generally small diameter timber is needed for one of the following purposes and will maintain or improve one or more of the roadless area characteristics as defined in § 294.11.

(i) To improve threatened, endangered, proposed, or sensitive species habitat; or

(2) The cutting, sale, or removal of timber is incidental to the implementation of a management activity not otherwise prohibited by this subpart;

Short-term impacts to solitude would occur due to the presence of workers and the sounds of chainsaws, during project implementation. Human manipulation of the vegetation would be a form of "trammeling", however, the restoration of sensitive plant species would enhance the natural qualities of the area in the long-term. The roadless area characteristics of diversity of plant and animal communities (294.11(3), and Habitat for threatened, endangered, proposed, candidate, and sensitive species and for those species dependent on large, undisturbed areas of land (294.11(4) would be improved.

Standard design features will mitigate potential short-term impacts within the Chips Creek Roadless Area.

e. ***Research natural areas*** – none present.

f. ***American Indians and Alaska Native religious or cultural sites –***

Consultation was initiated with the following Tribes: Concow Maidu Tribe of Mooretown Rancheria, Estom Yumeka Tribe of Enterprise Rancheria, Greenville Rancheria, Maidu Summit Consortium, Mechoopda Indian Tribe of Chico Rancheria, Susanville Indian Rancheria, and Tyme Maidu Tribe of Berry Creek Rancheria.

At this time there are no known religious sites or cultural sites in the project area. Therefore, there will be no effect upon such areas. To the extent that archeological/historic sites or areas are identified during project analysis or implementation, project design features discussed above will insure heritage resources are protected and significant effects are avoided.

g. ***Archaeological sites, or historic properties or areas –***

Recent surveys located a number of potentially eligible historic sites within the project area. However, based on the design features provided in this document, this site will have no effect on any NRHP eligible cultural resources. As a result, this project will be in compliance with Section 106 of the National Historic Preservation Act (NHPA).

Public Involvement

This action was originally listed as a proposal on the Plumas National Forest Schedule of Proposed Actions in March 2017 and updated periodically during the analysis. A description of the purpose and need and proposed action was posted to the Plumas National Forest website and mailed to interested individuals, organizations, and tribes. We received one comment from a commenter who wrote in support of the project.

Findings Required by Other Laws and Regulations

National Forest Management Act

This decision is consistent with the 1988 Plumas National Forest Land Management Plan and the Sierra Nevada Forest Plan Amendment (SNFPA) (USDA Forest Service 1988, USDA Forest Service 2004). The Plumas National Forest Land and Resource Management Plan direction regarding wildlife, fish, and sensitive plants states: "provide a diversity of vegetation types and habitat to support viable populations of all fish, wildlife, and plant species," and more specifically "maintain viable populations of sensitive plant species" by protecting sensitive and special interest plant species, as needed (USDA Forest Service 1988). Design features have been incorporated into the Decision to ensure consistency with the Plans.

The Forest Supervisor signed an interim protection measure for the proposed Red Hill Special Interest Area that requires a determination for all proposed projects that the selected alternative would not adversely affect the suitability of the area for SIA designation. The Storrie and Rich fires burned approximately one-quarter of the proposed Red Hill SIA, placing numerous botanical resources at risk. To ensure protection of the botanically diverse Red Hill area from future negative disturbance, the necessary environmental analysis needs to be completed to provide official SIA designation. The proposed project is intended to enhance habitat for rare plant species and includes protection measures for these species. Therefore, it would be an overall benefit to the proposed SIA.

The project was designed in conformance with all applicable laws and regulations.

Endangered Species Act

The Project will have no effect on Sierra Nevada yellow-legged frog and its Suitable habitat. Sierra Nevada yellow-legged frogs are assumed to be currently absent within the suitable habitat outside of the designated critical habitat boundary based on the lack of detections during multiple amphibian surveys conducted between 2014 and 2016. The standards and guidelines (S&Gs), best management practices (BMPs), project-specific design features, and terms and conditions prescribed in the USFWS programmatic biological opinion (USFWS 2014) will be properly implemented to negate Project effects to the Sierra Nevada yellow-legged frog.

The Project will have no effect on Sierra Nevada yellow-legged frog Critical Habitat in Subunit 1B: Bean Creek. Primary constituent elements are not present beyond the 82' buffer of any streams within the Project areas.

The project would not affect any other federally threatened, endangered, or candidate species.

Clean Water Act

The project will be conducted in accordance with requirements of the California Central Valley Regional Water Quality Control Board to ensure compliance with the California Water Code and the Federal Clean Water Act.

National Historic Preservation Act

The project meets the requirements of the National Historic Preservation Act of 1966, as amended, and implementing procedures outlined in the Region 5 Programmatic Agreement (see project design features).

USDA

Administrative Review Opportunities

This decision is not subject to administrative review.

Implementation Date

This project can be implemented immediately, and may begin as soon as summer 2017.

Contact

For additional information concerning this decision, contact: Jim Belsher-Howe, jbelsher-howe@fs.fed.us , 530-283-0555.

Micki D. Smith
District Ranger

10-4-17
Date

References

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